

REMARKS

Applicants amend claim 6 and add claims 28-31 such that claims 1-22 and 28-31 are pending in this application. Applicants respectfully request allowance of all the pending claims.

Claim Rejections – 35 U.S.C. §112

The Examiner rejects claims 6-10 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctively claim the subject matter which Applicants regard as the invention. Specifically, the Examiner recommends changing “the database” to “a database” to provide adequate antecedent basis. In response, Applicants amend claim 6 to address the Examiner’s concerns. Applicants respectfully request the Examiner to remove the rejection of claims 6-10.

Claim Rejections – 35 U.S.C. §103(a)

The Examiner rejects claims 1-25 under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 6,512,455 (“Finn”) in view of United States Patent No. 5,287,705 (“Roehrich”).

Claim 1 recites a method including providing a controller coupled to an environment-adjusting system, providing a database communicatively connected to the controller, receiving into the database a cargo identification, retrieving from the database an environment-control parameter as a function of the identified cargo, and regulating the environment-adjusting system with the controller to adjust an environment of a conditioned space of an environment-controlled transport unit based upon the environment-control parameter communicated from the database to the controller.

Claim 6 recites an article including a computer-readable medium which stores computer-executable instructions for controlling an environment of a conditioned space in an environment-controlled transport unit for transporting cargo. The instructions causing a machine to receive into the database a cargo identification, retrieve from the database an environment-control parameter as a function of the identified cargo, and regulate an environment-adjusting system with a controller to adjust an environment of a conditioned space of an environment-controlled transport unit based upon the environment-control parameter communicated from the database to the controller.

Claim 11 recites an environment control system including an environment-adjusting system, a controller, a database, and an input device. The environment-adjusting system is configured to adjust the environment of a conditioned space. The controller is coupled to and configured to regulate the environment-adjusting system. The database is communicatively connected to the controller and the input device is coupled to the controller. The database includes a cargo identification and an environment-control parameter as a function of the cargo identification. The controller is configured upon selection of a cargo identification by way of the input device to retrieve the environment-control parameter as a function of the cargo identification from the database and to regulate the environment-adjusting system based upon the environment-control parameter.

Claim 22 recites an environment-controlled transport unit including a container and an environment control system. The container defines a conditioned space. The environment control system is configured to receive into a database a cargo identification and to retrieve from the database an environment-control parameter as a function of the cargo identification. The environment control system is configured to regulate an environment adjusting system with a controller to adjust an environment of the conditioned space based upon the environment-control parameter communicated from the database to the controller.

Claims 1, 6, 11, and 22 (“the independent claims”) regulate the environment-adjusting system with a controller to adjust an environment of a conditioned space based upon a cargo-dependent environment-control parameter communicated from a database to the controller or in other words retrieved by the controller from the database. The independent claims recite this similar limitation and are therefore discussed together below.

Finn discloses a system for monitoring cargo on a transport vehicle utilizing impulse radio. With reference to Figs. 11 and 12, the system includes an operator’s interface (1240), a cargo monitor (1114), and impulse radio transmitters (1132). Each impulse radio transmitter is affixed to a respective unit of cargo (1134). The transmitter (1132) includes a sensor (1126) to sense actual parameters on the cargo (1134) and a bar code (1630)(Fig. 16) to identify the contents of the cargo (1134). A bar code scanning device (1154) reads the bar code (1630) upon entry (1134) into the transport vehicle (1116) and communicates a corresponding signal to the cargo monitor (1114), which identifies the type of cargo (1134) based on the signal received. The cargo monitor (1114) then retrieves ranges of acceptable conditions (e.g., acceptable

temperature ranges) from its memory (1218) based on the identified cargo. The cargo monitor (1114) also receives signals from the sensor (1126) representative of the cargo's actual condition (e.g., actual temperature). The monitor (1114) compares the actual condition with the range of acceptable conditions and if the sensed condition is outside the range of the acceptable conditions, the monitor transmits a warning message to the operator's interface (1240). If desired, the warning can also include a message that identifies the remedial action to be undertaken by the operator (e.g., raising or lowering the setpoint temperature of refrigeration unit or another type of environment-adjustment system).

Roehrich, discloses a temperature control that maintains a temperature within a predetermined range adjacent a selected temperature set point with a cooling cycle including the evaporation of a cryogen. The set point temperature for the conditioned space (12) is selected via a set point temperature selector (68). The controller uses a database (179) or look-up table to: (i) determine a desired evaporation vapor pressure value EPX of the cryogen as a function of the selected set point temperature SP; (ii) control the evaporation pressure EP in the heat exchanger means as a function of the determined desired evaporating vapor pressure value EPX; (iii) determine a desired superheat value SHX of the cryogen exiting the heat exchanger means as a function of the selected set point temperature SP; and (iv) control the mass flow rate of liquid cryogen evaporating in the heat exchanger as a function of the determined desired superheat value SHX.

As understood by the Applicants, the Examiner believes that the database (1218) of Finn can be directly substituted for/or added to the database (179) of Roehrich so that the cargo-specific parameters of the Finn database (1218) can be directly communicated to the controller for operation of the environment-adjusting system of Roehrich. Applicants respectfully disagree and submit that one of ordinary skill in the art would not have been motivated to replace or combine the information of the databases because the information contained in the separate databases serve different functions. The information in the Finn database (1218) includes ranges of acceptable conditions as a function of a specific type of cargo while the Roehrich database includes cryogenic control parameters as a function of the selected temperature set point to optimize the cryogenic operation.

In addition, there is no motivation to replace or combine the information of the databases because the function of the control system of Finn can be operated together with the environment

control system of Roehrich without modification to either. The control system of Finn can determine a control parameter based on the detected cargo type and then alert the operator when an actual condition is out of the acceptable range of the control parameter. For example, the operator is alerted to adjust the temperature set point when the actual sensed temperature is outside a cargo specific acceptable temperature range. Based on this alert, the operator could raise or lower the temperature set point of the control system of Roehrich by adjusting the set point temperature selector (68). In other words, the cargo monitor (1114) of Finn can communicate the cargo-specific acceptable parameter to the operator's interface (1240) (for the operator to see and personally enter into an environment control system, such as the one disclosed in Roehrich by adjusting the temperature set point selector (68)), but it cannot communicate the cargo-specific acceptable parameter directly to the controller for immediate adjustment of the environment-adjusting system.

For these reasons, Finn and Roehrich, alone or in combination, do not teach or suggest all of the claim limitations of the independent claims. Therefore, Applicants respectfully submit that the Examiner has failed to present a *prima facie* case of obviousness of the independent claims based upon the prior art as required by 35 U.S.C. §103.

Accordingly, the independent claims are allowable. Claims 2-5 and 28, claims 7-10 and 29, claims 12-21 and 30, and claim 31 depend from allowable independent claims 1, 6, 11, and 22, respectively, and are allowable for the same and other reasons.

For example, claims 28-31 depend from independent claims 1, 6, 11, and 22, respectively, and each recite that the environment-control parameter is a temperature set point. Applicant's assert that even if the references could be combined as suggested by the Examiner, the combination would not teach or suggest each of the limitations of the claims. Specifically, the combination would not teach or suggest communicating a cargo specific temperature set point directly to a controller from a database to control the environment-adjustment system. Rather, Roehrich clearly discloses a temperature set point selector (68) that is manually adjusted rather than directly adjusted by the controller.

The Examiner is invited to contact the undersigned attorney should the Examiner determine that such action would facilitate the prosecution and allowance of the present application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Glen A. Weitzer', written in a cursive style.

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